

BASIC PLANNING DATA

FOR

FARM STRUCTURES

DECISION-MAKING

Edited By

Richard D. Duvick

Extension Economist, Farm Management

for

FARM STRUCTURES AND ENGINEERING ECONOMIC WORKSHOP  
OHIO COOPERATIVE EXTENSION SERVICE ANNUAL CONFERENCE

October 10, 1978

CONTENTS

<u>Table</u>	<u>Title</u>	<u>Page</u>
1	Annual Direct Labor Requirements for Crop and Live- stock Enterprises	3
2	Labor Efficiency in Various Milking Systems	4
3	Check on Labor Distribution	5
4	Total Hours of Annual Overhead Labor Per Farm, by Size and Type of Farm	6
5	Annual Value of Minutes Saved Per Day at Various Hourly Wage Rates	7
6	Annual Production and Feed Requirements for Livestock	8
7	Space Requirements - Farm Machinery Crop	9 10
8	Storage Space for Wet Corn, Shelled or Ground Ear Corn	11
9	Space Housing and Water Requirements for Livestock Enterprises	
	- Dairy Cow	12
	- Dairy Replacements	12
	- Feeder Cattle	12
	- Beef Cow and Calf	13
	- Swine	13-14
	- Layers	15
	- Broilers	15
	- Turkeys	15
	- Sheep	15
10	Annual Payment Required to Repay P & I on a \$1,000 Loan	16

Table 1. Annual Direct Labor Requirements for Crop and Livestock Enterprises

Enterprise	Unit	Annual hours of labor per unit		
		Average	High mechanization, efficient work methods	Low mechanization, poor work methods
<i>Corn, Grain</i>	1 acre	3.5	2.0	7.0
<i>Soybeans</i>	1 acre	3.5	2.0	7.0
<i>Wheat</i>	1 acre	1.5	.7	4.5
<i>Oats</i>	1 acre	1.5	.7	4.0
<i>Corn Silage</i>	1 acre	6.0	3.0	20.0
<i>Hay Harvesting</i>				
.5-1.2 tons per A.	1 ton	3.0	2.0	6.0
Over 1.2 tons per A.	1 ton	2.0	1.0	4.0
<i>Silage Harvesting</i>				
1-7.5 tons per cutting	1 ton	.6	.3	2.0
Over 7.5 tons per cutting	1 ton	.3	.1	1.0
<i>Dairy Herd<sup>a/</sup></i>				
10-24 cows	1 cow	115	90	140
25-49 cows	1 cow	90	65	115
50-99 cows	1 cow	75	55	100
<i>Beef Cow Herd, Calf Sold<sup>a/</sup></i>				
1-15 cows	1 cow	25	20	40
15-39 cows	1 cow	15	12	25
40-100 cows	1 cow	10	8	16
<i>Beef Cow Herd, Calf Fed<sup>a/</sup></i>				
1-15 cows	1 cow	40	30	60
15-39 cows	1 cow	25	20	40
40-100 cows	1 cow	20	15	30
<i>Feeder Cattle, Long Fed<sup>a/</sup></i>				
1-40 head	1 feeder	15	10	25
40-119 head	1 feeder	10	7	17
120-200 head	1 feeder	8	5	13
<i>Feeder Cattle, Short Fed<sup>a/</sup></i>				
1-40 head	1 feeder	10	8	18
40-119 head	1 feeder	7	4	12
120-200 head	1 feeder	5	3	10
<i>Sheep, Farm Flock<sup>a/</sup></i>				
1-25 ewes	1 ewe	7	5	10
25-49 ewes	1 ewe	5	3	7
50-100 ewes	1 ewe	4	2	6
<i>Hogs</i>				
15-39 litters	1 litter	23	15	35
40-99 litters	1 litter	18	10	30
100 litters or more	1 litter	15	8	25
<i>Feeder Pigs</i>				
1-100 hogs	1 pig	2.2	1.0	4.5
100-249 hogs	1 pig	1.6	.7	3.0
250-500 hogs	1 pig	1.4	.5	2.7
<i>Poultry</i>				
Commercial flocks over 2,000 hens	100 hens	40	20	80

<sup>a/</sup> Includes time for harvesting hay and straw and hauling manure in addition to time for caring for livestock.

Source: Farm Management Manual, AE-4426, Dept. of Agr. Econ., Univ. of Illinois, Jan. 1977.

Table 2 - LABOR EFFICIENCY IN VARIOUS MILKING SYSTEMS

G. M. Jones  
Extension Specialist, Dairy Management

Milking system	Mechanization	No. men	Units per man	Cows per hr.	Cows per man hr.	Milk per cow	Milk per man hr.
Stanchion barn	--	1		36	36	22	792
	--	1		29	29	42	1235
	--	1	4		31	31	959
	--	1	6 <sup>+</sup>		34	23	780
<hr/>							
Side-opening							
d-2	None	1	4	33	33	47	775
	Prep stalls	1	4	44	44	42	915
d-3	Prep stalls + detachers	1	4	41	41	47	964
	Prep stalls	1	6	51	51	44	1127
	Prep stalls + detachers	1	6	60	60	40	1200
d-4	None	1	4	56	56	51	714
	Prep stalls	1	8 <sup>+</sup>	59	59	56	1652
	Prep stalls + detachers	1	8	61	61	52	1586
<hr/>							
Herringbone							
d-4	None	1	8 <sup>+</sup>	41	41	44	900
	Detachers + power gates	1	8	48	48	51	1224
d-6	None	2	6	58	29	44	640
	Detachers	1	12	72	72	48	1730
d-8	Detachers + power & crowd gates	1	12	76	76	50	1980
	None	2	8	70	35	42	735
	Detachers + power & crowd gates	1	16 <sup>+</sup>	82	82	53	2175
d-10	None	2	10 <sup>+</sup>	90	45	47	1063
	Detachers	1	20 <sup>+</sup>	88	88	48	2112
<hr/>							
Rotary†	8-stall tandem	1	8	57	57	46	1311
	17-stall turn-style	2	17	96	48	41	984
	13-stall herringbone	2	13	69	35	39	683
<hr/>							
Polygon	24-stall + detachers	1	24	110	110	24	2640
	24-staff + detachers	2	24	135	68	24	1620

+ Too many milking units per man

† With crowd gates

Source: G. M. Jones, Dairy Guidelines, Series 252, VPI and SU, Blacksburg, VA. Jan. 19

Table 3. Check on Labor Distribution

	Total hours <sup>a/</sup>	Percent of total labor, by months (enter actual number of hours in blank spaces)											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<i>Crops</i>													
Corn	_____			5 _____	10 _____	20 _____	15 _____	5 _____	5 _____	5 _____	15 _____	15 _____	5 _____
Soybeans	_____			5 _____	10 _____	20 _____	20 _____	10 _____	5 _____	10 _____	20 _____		
Wheat	_____			5 _____	5 _____		20 _____	20 _____	10 _____	20 _____	20 _____		
Oats	_____			25 _____	20 _____			40 _____	15 _____				
Hay	_____						50 _____	20 _____	20 _____	10 _____			
<i>Livestock<sup>b/</sup></i>													
Dairy herd	_____	9 _____	9 _____	9 _____	9 _____	7 _____	12 _____	9 _____	8 _____	6 _____	6 _____	7 _____	9 _____
Beef herd	_____	10 _____	10 _____	15 _____	10 _____	5 _____	12 _____	8 _____	8 _____	5 _____	5 _____	6 _____	6 _____
Feeder cattle													
Long fed	_____	10 _____	10 _____	10 _____	8 _____	7 _____	15 _____	10 _____	10 _____	5 _____	5 _____	5 _____	5 _____
Short fed	_____	15 _____	15 _____	10 _____	10 _____		15 _____	10 _____	5 _____		5 _____	5 _____	10 _____
Sheep flock	_____	10 _____	15 _____	10 _____	10 _____	10 _____	10 _____	5 _____	5 _____	5 _____	5 _____	5 _____	10 _____
Hogs (2 litters)	_____	10 _____	10 _____	15 _____	10 _____	5 _____	5 _____	5 _____	10 _____	10 _____	5 _____	5 _____	10 _____
Laying hens	_____	8 _____	8 _____	12 _____	12 _____	10 _____	8 _____	5 _____	5 _____	8 _____	8 _____	8 _____	8 _____
<i>Overhead</i>	_____	5 _____	5 _____	5 _____	10 _____	10 _____	10 _____	10 _____	10 _____	10 _____	10 _____	10 _____	5 _____
TOTAL FOR FARM	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
TOTAL HOURS AVAILABLE	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

a/ Enter total direct hours from Forms 1 and 2 and over head hours from Table 9.

b/ Hours on livestock include time for harvesting hay and straw in addition to time for caring for livestock.

Source: Farm Management Manual, AE-4426, Dept. of Agr. Econ., University of Illinois, January, 1977.

Table 4. Total Hours of Annual Overhead Labor<sup>a/</sup> Per Farm, by Size and Type of Farm

Type of farm <sup>b/</sup>	Acres per farm				
	Under 180	180-259	260-339	340-499	500 or more
General					
Grain .....	500	570	650	750	900
Livestock ...	650	790	950	1,150	1,300
Dairy .....	600	710	830	930	...

<sup>a/</sup> From 1951-1958 Illinois detailed labor records. Includes labor used in repair and maintenance of farmstead, buildings, fence, power and machinery, and equipment; general farm business; and other similar work not directly on crop or livestock enterprises.

<sup>b/</sup> *General Grain farms* are farms where value of feed fed to livestock is less than one-half of the value of crop production.

*Specialized Grain farms* are farms where value of feed fed to livestock is zero.

*Hog or beef farms* are farms where the value of feed fed to livestock is more than one-half of the value of crop production and either hog or beef cattle enterprises received more than one-half of the value of feed fed.

*Dairy or poultry farms* are farms where the value of feed fed to livestock was more than one-half the value of crop production and either dairy or poultry received more than one-third of the value of feed fed.

Table 5 - ANNUAL VALUE OF MINUTES SAVED PER DAY  
AT VARIOUS HOURLY WAGE RATES

Minutes Saved Per Day	Wage Rate Per Hour					
	1.00	1.50	2.00	2.50	3.00	4.00
	Annual Values					
10	\$61	\$91	\$122	\$152	\$182	
20	122	182	243	304	365	486
30	182	274	365	456	548	730
40	243	365	487	608	730	974
50	304	456	608	760	912	1216
60	365	548	730	912	1095	1460

POSSIBLE CAPITAL INVESTMENT FOR TIME SAVED PER DAY  
AT VARIOUS WAGE RATES (30% CAPITALIZATION RATE)

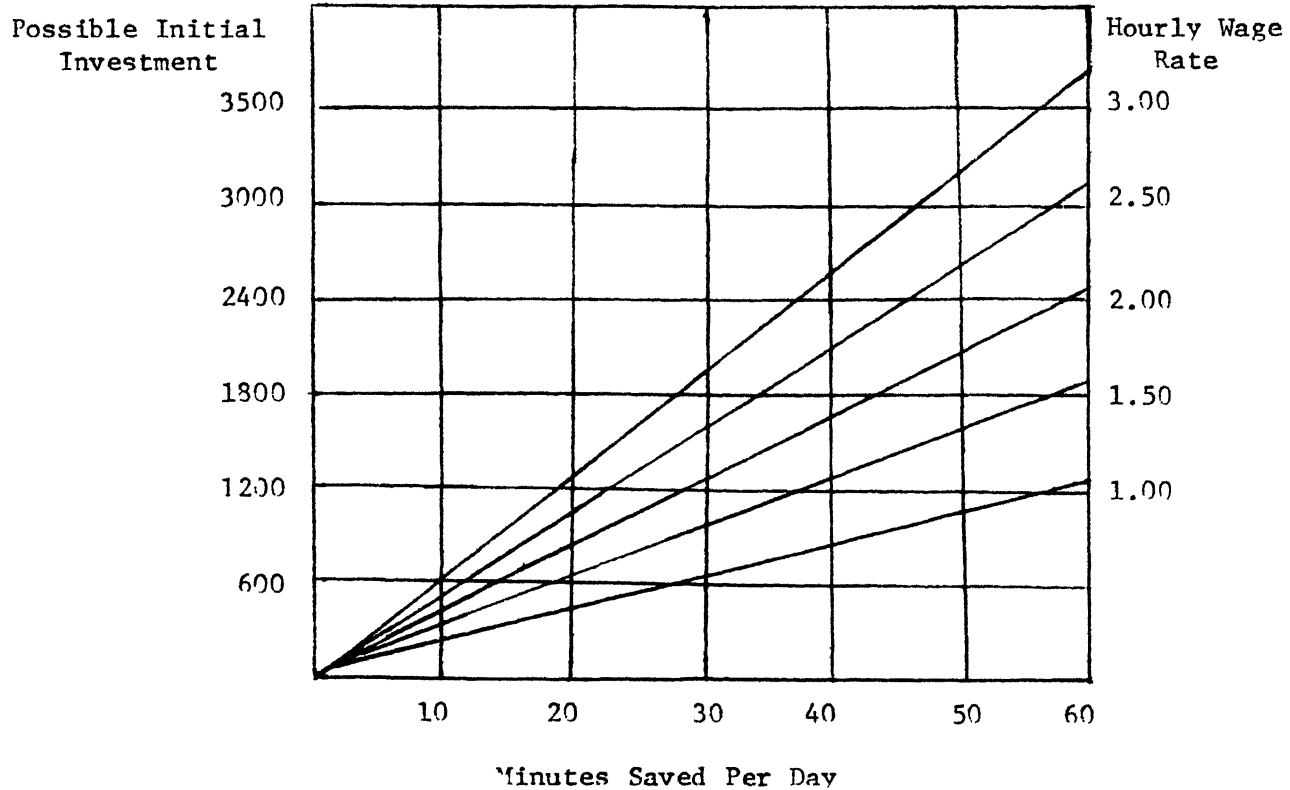


Table 6 - Annual Production and Feed Requirements for Livestock

Enterprise and Feeding Program	Production or Gain	Corn Grain (Bu)	Protein (Lb)	Mineral & Salt (\$)	Hay (Ton)	Corn Silage (Ton)	Pasture (Ton)
Dairy Cow (no replacement)	13,000 lb. milk	50	400	15	3.00	3.00	-
	15,000 lb. milk	66	660	16	3.25	3.25	-
	17,000 lb. milk	82	1000	18	3.50	3.50	-
Dairy Heifer (birth to 24 mo.)	.9 bred heifer	22	300 <sup>1/</sup>	6	4.50	-	-
Feeder Calf	600 lb. beef	35	375	1	-	4.50 <sup>2/</sup>	-
Feeder Yearling	400 lb. beef	26	275	1	-	4.20 <sup>2/</sup>	-
Beef Cow & Calf-Spring calving	382 lb. calf	-	-	3	1.25	-	3.75
	200 lb. cull cow	-	-	-	-	-	-
Beef Cow & Calf-Fall calving	540 lb. calf	-	-	3	1.70	-	3.75
	200 lb. cull cow	-	-	-	-	-	-
Feeder pigs - pasture, 1 litter	275 lbs. pigs	44	450	1	-	-	-
	440 lbs. cull	-	-	-	-	-	-
- confinement	675 lbs. pigs	49	1100	1	-	-	-
	216 lb. cull	-	-	-	-	-	-
Finishing feeder pigs (100 head)	2134 lbs.	945	10,550	5	-	-	-
Farrow to Finish - pasture, 1 litter	1210 lbs. hogs	100	1050	1	-	-	-
	450 lbs. cull	-	-	-	-	-	-
- confinement	2860 lbs. hogs	177	2375	1	-	-	-
	245 lbs. cull	-	-	-	-	-	-
Ewe and Lamb	165 lb. meat	6.5	30	1	-	.79	-
	10 lb. wool	-	-	-	-	-	-
Feeder Lamb	107 lb. meat	2	15	<1	.07	.07	-
	4.5 lb. wool	-	-	-	-	-	-
Laying Hens - 1000	20,000 doz. eggs	-	940 lbs. per bird complete layer feed	-	-	-	-
Broilers - 1000	3,325 lb. poultry	-	8.6 lbs. per bird complete broiler feed	-	-	-	-
Turkeys - 1000	18,400 lb. turkey	-	66.5 lbs. per bird complete turkey feed	-	-	-	-

<sup>1/</sup> Plus 20 lbs. milk replacer and 300 lbs. 20% Starter.<sup>2/</sup> Urea treated corn silage.



Table 7 - Space Requirements

1. Farm Machinery Storage Space Requirements

Machine	Floor space needed <sup>a</sup>		
	Width (feet)	Length (feet)	Total (square feet)
Tractors:			
2-plow	6	11	66
3-plow	7½	12	90
4-plow	8½	12	102
5-plow	9	13	117
Plows:			
2-bottom trail	5½	11	60
3-bottom trail	6½	15	98
5-bottom trail	8	20	160
Stalk cutter	6	4	24
Harrows:			
Tandem disk, 8 foot	8	11½	92
Tandem disk, 14 foot	14	15	210
Field cultivator, 12-15 foot	15	10½	157
Spring tooth, per section	5	5	25
Lister, 4-row	16	11	176
Corn planter:			
2-row	7½	6	45
4-row, without hitch (40" rows)	14	6	84
6-row, without hitch (30" rows)	15	7	105
Row cultivators and hoes:			
2-row	7	7	49
4-row (40" rows)	13½	8½	115
6-row (30" rows)	15	10	150
Rotary hoe	7½	7	52
Grain drill, 10 foot, 18 x 7	12½	9	113
Haying machinery:			
Mower, tractor	7½	6½	49
Side delivery rake	11	13	143
Field forage harvester	8	13½	108
Field hay chopper	9	12	108
Ensilage cutter and blower	5½	12	66
Forage crop blower	6	13	78
Field baler	13	17	221
Combines:			
Pull type, 6-7 foot	11	22	242
Self-propelled, 9 foot	10	18	180
Self-propelled, 12 foot	13	23	299
Self-propelled, 14 foot	15	30	450

Table 7 - Floor space requirements for farm machines (continued)

Machine	Floor space needed <sup>a</sup>		
	Width (feet)	Length (feet)	Total (square feet)
Corn picker:			
1-row, trail	8	13	104
2-row, trail	11½	13	150
2-row, mounted	8½	19	164
Manure spreader	6	15½	93
Manure loader	6	14	84
Sprayers:			
Orchard	6	8	48
Commercial fertilizer spreader, 12 foot	13	5	65
Nitrogen applicator, 8 foot	9	10	90
Wagons:			
Wagon with box bed	6	15	60
Wagon with 14 foot hay rack	7-8	16	120
Wagon and tractor, tractor backed over tongue	7-8	26	195

Source: Machinery Housing and Repair, plan no. 74118, Midwest Plan Service, Ames,

<sup>a</sup>Allow about 15 percent more than the space taken up by the machines for movement of the machines and possible expansion. It should be realized that different makes and models vary from these averages.

## 2. Crop Storage Space Requirements

### Space requirements for hay, grain, and silage

	Loose		Baled		Chopped		
	Ft. <sup>3</sup> /ton	Lb/cu. ft.	Ft. <sup>3</sup> /ton	Lb/cu. ft.	Cwt.	Ft. <sup>3</sup> /ton	Lb/cu. ft.
Hay and straw							
Alfalfa	400-500	4.4-4.0	200-330	10-6	1½"	285-360	7.0-5.5
Non-legume	450-600	4.4-3.3	250-330	8-6	3"	300-400	6.7-5.0
Straw	670-1,000	3.0-2.0	400-500	5-4	...	250-350	8.0-5.7
Silage by type of silo:		Whole corn or alfalfa-brome (cu.ft./ton)		Ear corn 36 percent M. C.			Shelled corn 32 percent M. C.
Trench or bunker, tractor packed		50-60		...			..
Upright, 16-24 ft dia.		45-55		41			33
<u>Grain:</u>							
Shelled corn and small grain				1¼ cu. ft. per bushel			
Ear corn				2½ cu. ft. per bushel			

Source: Beef Equipment Plans and Needs, MWPS-6, Midwest Plan Service, Iowa State University, Ames,

Table 8 - STORAGE SPACE FOR WET CORN, SHELLED OR GROUND EAR\*

Weight and Volume of a Bushel of Shelled and  
Ground Ear Corn, by Specified Moisture Contents a/

Moisture content			Weight of water per bushel <u>c/</u>			Volume per bushel	
Kernel	Cob <u>b/</u>	Ear corn <u>b/</u>	Kernel	Cob	Total	Shelled corn	Ground-ear corn
(Percent)			(Pounds)			(Cu. ft.)	
15.5	18	16	8.7	2.5	11.2	1.25	1.94
16	20	17	9.0	2.9	11.9	1.26	1.96
17	22	18	9.7	3.2	12.9	1.27	1.97
18	26	20	10.4	4.0	14.4	1.28	2.00
19	30	21	11.1	4.9	16.0	1.29	2.02
20	34	23	11.8	5.9	17.7	1.30	2.05
22	40	26	13.4	7.6	21.0	1.32	2.10
24	44	29	15.0	9.0	24.0	1.35	2.15
26	48	32	16.6	10.6	27.2	1.38	2.20
28	51	34	18.4	12.0	30.4	1.41	2.25
30	53	36	20.3	13.0	33.3	1.44	2.30
32	54	38	22.3	13.5	35.8	1.47	2.34
34	56	40	24.3	14.4	38.7	1.50	2.38
36	57	42	26.6	15.2	41.8	1.54	2.43

a/ Based on a standard bushel of ear corn with kernel of 15.5 percent moisture, 58.8 pounds of dry matter (47.32 pounds in kernels and 11.48 in cob), and 11.2 pounds of water.

b/ Cob and ear corn moistures are rounded to the nearest whole percent.

c/ A bushel of ground ear corn at 15.5 percent kernel moisture is assumed to occupy 1.944 cubic feet, based on 36 pounds per cubic foot--water .179 cubic foot and dry matter 1.765 cubic feet.

Example: Calculate cubic feet in storage unit. (Use the formula  $\pi r^2 \times \text{height}$ ) e.g., a 21 x 30 unit has 10,391 cu.ft. If moisture content is 30 percent for ground shelled corn, divide 10,391 by 1.44 which equals 7,216 Bu. If 20 percent moisture, divide by 1.30 which equals 7,993 Bu.

\*From: "Wet Corn--Shelled or Ground Ear", Velmar W. Davis, University of Illinois, USDA, ERS, FPED, March 1964, AE-3997.

Table 9 - Space, Housing and Water Requirements for Livestock Enterprises

DAIRY ENTERPRISE - Milk Cows

Loose Housing, bedded area	60 - 80 sq. ft.
feeding area	30 - 45 sq. ft.
paved lot	150 sq. ft.
holding pen	12 - 15 sq. ft.
Free Stalls, 3 1/2 x 7 1/2 ft. stalls with 10 - 12 ft. alley	45 - 50 sq. ft.
Feeding Bunk, all eating at once	30 inches
lazy susan	22 inches
self feeding	18 inches
Height of bunk	24 - 30 inches from step
Depth of bunk	12 - 18 inches
Width of bunk	60 inches for an auger
Young cattle needs	25 - 50 sq. ft.
Water, cows in milk	20 - 35 gals. daily
dry cows	10 - 12 gals. daily
milk house use	3 - 5 gals. per cow daily
Watering Space - continuous access	30 - 40 cows per waterer
limited access	2 cows per waterer
Manure - daily production	1 - 1 1/2 cu. ft. or 50 - 75 lbs with no rain water included

DAIRY ENTERPRISE - Replacements

Sheltered pens - calf	15-25 sq. ft.
- yearling	30-50 sq. ft.
Bunk height - calf	16-18 inches
- yearling	20-24 inches
Bunk space - calf	16-20 inches
- yearling	20-30 inches
Water - calf	4-6 gals.
yearling	8-10 gals.

FEEDER CATTLE ENTERPRISE

<u>Lot Space</u>	<u>Sq. ft/hd</u>	<u>Feed Space</u>	<u>Inches/hd</u>
Shed	20-25	Limited feed	22-26
Lot, paved	25-40	Self-feed	
, unpaved	150-200	Hay or silage	4-6
Confinement	25	Grain	3-4
		Grain & silage	6

Table 9 - (continued)

BEEF COW AND CALF ENTERPRISE

Space or pasture required

2 to 5 acres of open pasture per cow plus  
.5 to 1 acre for winter feed supply

Housing - Not necessary to house beef cattle in a  
barn as the only need is for a wind break

If a loafing shed or barn is provided for shelter, allow:

Mature cow 35 - 50 sq. ft.

Young calf 12 - 15 sq. ft.

Lot space for cows and calves in confinement  
(if paved, lot size could be cut in half)

Cow and calf 150 - 200 sq. ft.

Manure-

Permitting beef cows to remain outdoors the year around eliminates a  
manure pile in the barn and usually results in less health problems.  
It also reduces labor requirements as hay can be fed on the ground  
in the field.

Water -

10 - 12 gals. per day per cow

1 - 4 gals. per day per calf

Bunk or feeder space - 24 to 36 inches per head

SWINE ENTERPRISE

Farrowing stall - under 400 lbs., 22" x 7' plus an 18" x 7' creep area on each side  
over 400 lbs., 24" to 26" x 7' or 8' plus 18" x 7' creep area on  
each side

Farrowing pen - 7' x 8' to 8' x 9'

Growing and finishing

	Square Feet Per Pig	
	<u>Under 100 lb.</u>	<u>Over 100 lb.</u>
Total confinement	4	8 - 9
Partial confinement		
Shelter space	4	6
Outside pen, paved	4	6

Pasture

No. per Acre

Breeding herd

7 sows

Sows and litters

3 sows & litters

Finishing hogs

10 - 12 limited fed pigs

16 - 20 full fed pigs

Pigs per linear foot of feeder space (or per hole) - 4

Drinking water - 50 pigs per cup, pressure 40 psi.

Table 9 (continued) Space Needs for All Ages of Swine

Period	Head Unit	Shelter, sq. ft. Per Head		Concrete outside lot, sq. ft./head	Water head/cup	Feeder	
		Animal Space	Overall Building			hand ft./head	self head/door
Breeding and Gestation	Sow	15	20	None	15	2	2
Farrowing				30			
Pens	Sow	56	70	(Optional)	1	2	1
Stall or crate	Sow	35	50	30	15	2	2
Growing							
Solid floor							
Weaning to 75 lb.	Pig	3	4	3	50	3/4	5
75 to 125 lb.	Pig	4	5	4	40	1	4
125 to 220 lb.	Pig	5	6	7	30	1 1/4	4
All or partially slotted floor							
Weaning to 75 lb.	Pig	4	5	--	50	3/4	5
75 to 125 lb.	Pig	6	7	--	40	1	4
125 to 220 lb.	Pig	8	10	--	30	1 1/4	4

Source: Midwest Plan Service, N.C.R. states

#### Miscellaneous Information

##### Feed - Water - Manure, Daily Requirements or amounts

Pig Wt. Lbs.	Full Feed Lbs.	H2O Gal.	Manure <sup>1</sup>	
			Solid Lb.	Gal.
50	2.7	1	2.7	.53
100	4.7	1.5	4.3	1.06
150	6.3	1.5-2.0	5.8	1.59
200	7.6	2.0-2.5	7.3	2.12
250	8.2	2.5-3.0	7.8	2.65
<u>Sow</u>		3.0		
Sow and Litter		6.8		

<sup>1</sup>Surface water not included in the above manure figures

##### Tank - Storage capacity required per pig.

150 lb. Pig - 2 gal./day with wash water

200 lb. Pig - 2 gal./day no wash water

200 lb. Pig - 2 1/2 gal/day with wash water

If rain water drains into storage tank add 2/3 gal./inch rain/  
sq. ft. of exposed floor

7.5 gal. = cu. ft.

Table 9 - ( Continued)

LAYERS ENTERPRISE

Housing, controlled environment, caged or floor .75 to 1 sq. ft. per bird

Water - 7 to 10 gals. per 100 birds

BROILERS ENTERPRISE

Housing - 1 sq. ft. per bird

Waterers - 50 birds per linear foot

Feeders - 10 birds per linear foot

TURKEY ENTERPRISE

Brooder House - 1.5 sq. ft. per bird

Growing House - 5.0 sq. ft. per ton; 4.0 sq. ft. per hen

Water - 18 gals. per 100 birds

SHEEP ENTERPRISE

Housing - ewe, no lambs	10-14 sq. ft.
- ewe, with lambs	12-16 sq. ft.

Lot size	Twice the above figures
----------	-------------------------

Bunks, hay and grain	12-18 inches per animal
----------------------	-------------------------

Self-feeders	5-10 animals per foot
--------------	-----------------------

Water needs	10 animals per foot of water
-------------	------------------------------

Table 10 - ANNUAL PAYMENT REQUIRED TO REPAY PRINCIPAL AND INTEREST ON A \$1,000 LOAN

Repayment (Term) (Year)	True Interest Rate on Loan								
	5% (\$)	6% (\$)	7% (\$)	8% (\$)	9% (\$)	10% (\$)	12% (\$)	15% (\$)	20% (\$)
1	1,050.00	1,060.00	1,070.00	1,080.00	1,090.00	1,100.00	1,120.00	1,150.00	1,200.00
2	537.80	545.44	553.09	560.77	568.47	576.19	591.70	615.12	654.55
3	367.21	374.11	381.05	388.03	395.06	402.11	416.35	437.98	474.73
4	282.01	288.59	295.23	301.92	308.67	315.47	329.23	350.27	386.29
5	230.97	237.40	243.89	250.46	257.09	263.80	277.41	298.32	334.38
6	197.02	203.36	209.80	216.32	222.92	229.61	243.23	264.24	300.71
7	172.82	179.14	185.55	192.07	198.69	205.41	219.12	240.36	277.42
8	154.72	161.04	167.47	174.01	180.67	187.44	201.30	222.85	260.61
9	140.69	147.02	153.49	160.08	166.80	173.64	187.68	209.57	248.08
10	129.50	135.87	142.38	149.03	155.82	162.75	176.98	199.25	238.52
15	96.34	102.96	109.79	116.83	124.06	131.47	146.82	171.02	213.88
20	80.24	87.18	94.39	101.85	109.55	117.46	133.88	159.76	205.36
25	70.95	78.23	85.81	93.68	101.81	110.17	127.50	154.70	202.12
30	65.05	72.65	80.59	88.83	97.34	106.08	124.14	152.30	200.85
35	61.07	68.97	77.23	85.80	94.64	103.69	122.32	151.13	
40	58.28	66.46	75.01	83.86	92.96	102.26	121.30	150.56	
45	56.26	64.70	73.50	82.59	91.90	101.39	120.74		
50	54.78	63.44	72.46	81.74	91.23	100.86			
55	53.67	62.54	71.74	81.18	90.79				
60	52.83	61.88	71.23	80.80	90.51				
*Interest Only	50.00	60.00	70.00	80.00	90.00	100.00	120.00	150.00	200.00